



19 86

T 49.89 1/2: 85 (15) map 16

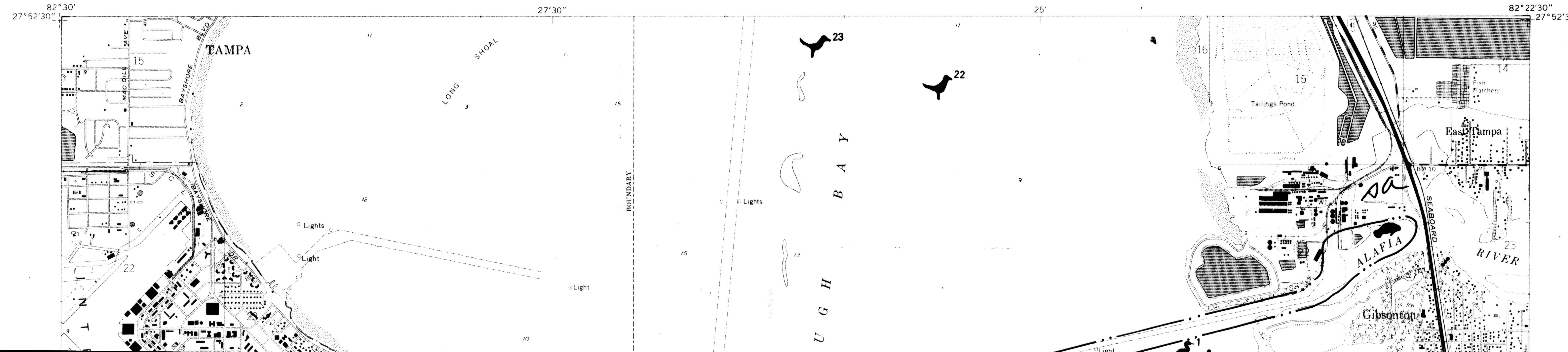


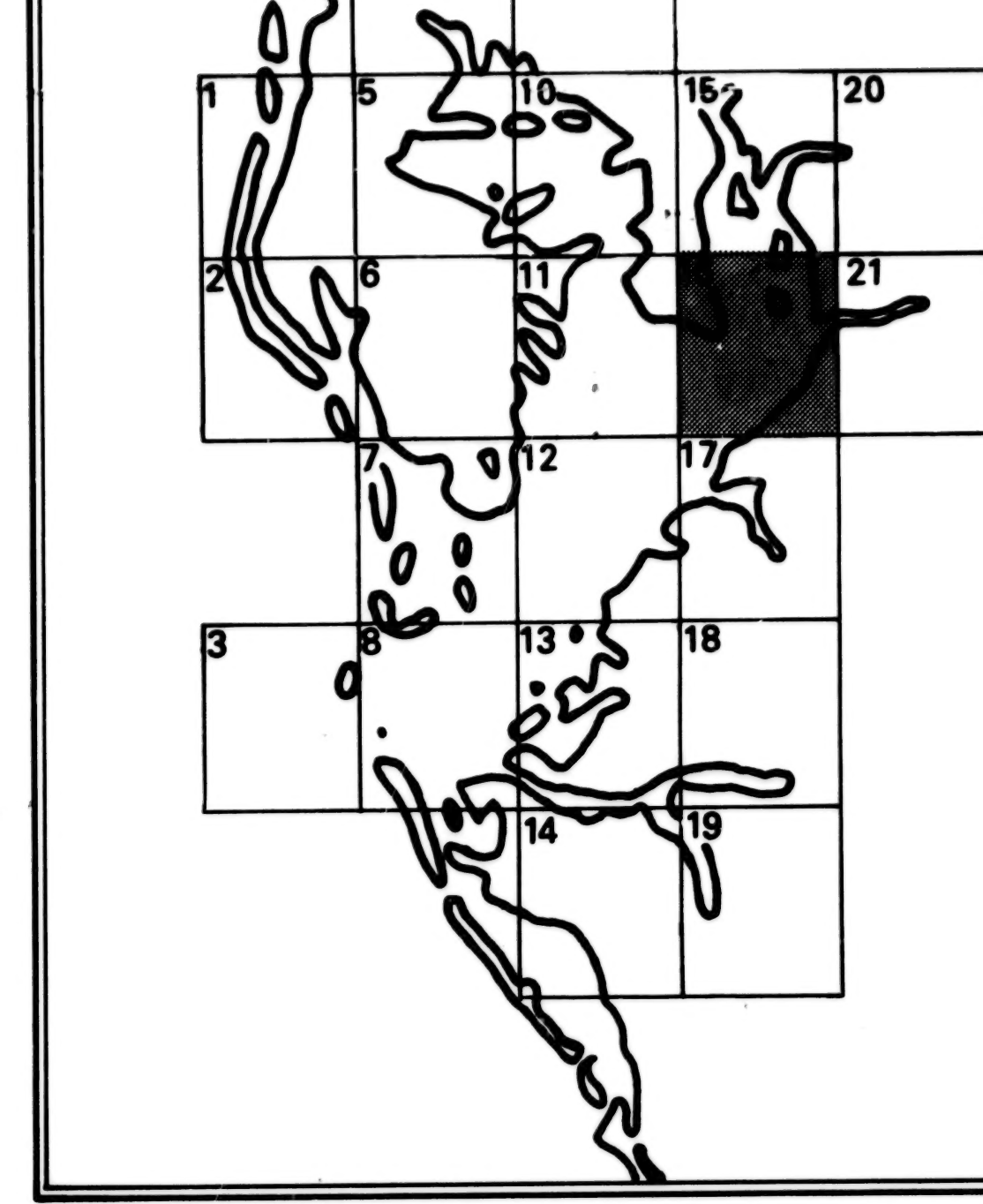
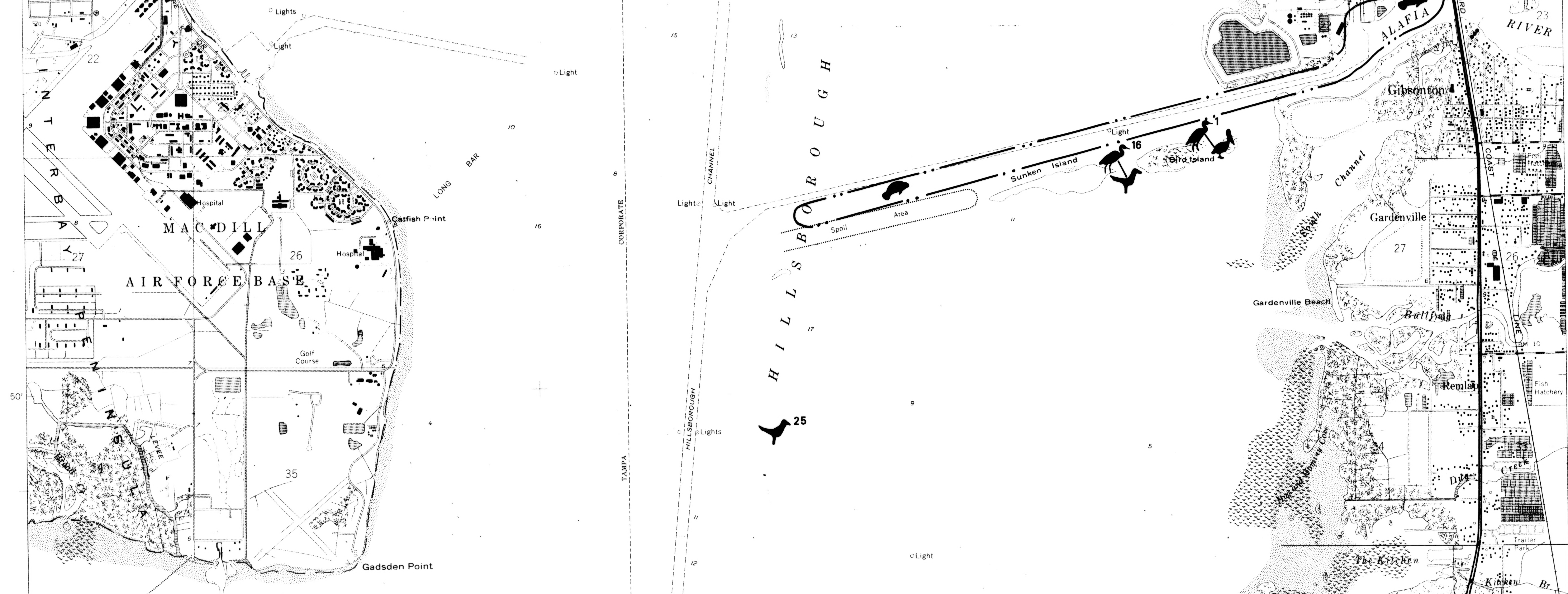
MAP A16

A 3x3 grid puzzle. The grid contains numbers 1 through 12 in various cells. The bottom-right cell (row 3, column 3) is shaded black. The numbers are distributed as follows:

1	5	10
2	6	11

Note: The numbers 15, 20, and 21 are also present in the original image but are not part of the 1-12 grid puzzle.





Scale 1:24,000



TOPICAL MAPS IN THIS ATLAS:
A. BIOLOGICAL RESOURCES
B. WATER RESOURCES

Produced by U.S. Fish and Wildlife Service
 Projection and 1,000 meter grid, zone 17: Universal
 Transverse Mercator
 10,000-foot grid ticks based on Florida coordinate
 system, east and west zones

Overlay material compiled in 1984 from
 latest available data obtained from
 Federal, State and Local government



Transverse Mercator
10,000-foot grid ticks based on Florida coordinate
system, east and west zones

Overlay material compiled in 1984 from
latest available data obtained from
Federal, State and Local government
agencies and other sources.

There are no maps A19, A20, A21 due to a lack of data.

LEGEND

SHELLFISH HARVEST AREA
(Florida Dept. of Natural Resources)

- SHA** Shellfish Harvest Approved
- SHCA** Shellfish Harvest Conditionally Approved

NOTE: Due to Dept. of Natural Resources (DNR) water quality
standards all other estuarine areas are prohibited or
unclassified as to shellfish harvest status and are
officially unapproved. For further info. on status of
harvest areas contact DNR - Shellfish Environmental
Assessment Section.

- Oys-1** Public Oyster Bed
- Oys-2** Private Oyster Bed (Lease)
- CLAMS** Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY Common Name	SPAWNING		NURSERY AREA	MAJOR NURSERY HABITATS				AREA OF ADULT ABUNDANCE	MAJOR ADULT HABITATS				MIGRATION TYPE										
		LOCATION	SEASON		Seagrass	Mangrove	Saltmarsh	Beach		Coral Reef	Artificial Reef	Open Water	Seagrass		Mangrove	Beach	Coral Reef	Artificial Reef						
ESTUARINE DEPENDENT FISHES																								
1	Red Drum	C	W	M	J	S	N	E	●	●	●	●						F	●	●	●	●		
2	Spotted Seatrout	E	W	M	J	S	N	E	●	●	●	●												

QUARANTINE ANCHORAGE

T A M P A B A Y

27°45'

27°30'

SCALE 1:24,000

25'

27°45'

82°22'30"

SPECIES #	FINFISH CATEGORY	Common Name	LOCATION	SPAWNING SEASON												MAJOR NURSERY HABITATS	MAJOR ADULT HABITATS	MIGRATION TYPE
				M	M	J	J	S	S	N	N	N	N	N	N	Seagrass	Mangrove	

ESTUARINE DEPENDENT FISHES																		
1	Red Drum	C														E		2
2	Spotted Seatrout	E														E		2
3	Snook	C														E		2
4	Sheepshead	C														C-E		1
5	Southern Flounder	C														C-E		2
6	Florida Pompano	CS														C-E		3
7	Striped Mullet	CS														E		3
8	Gulf Menhaden	C														C-E		3
9	Spanish Sardine	C														C-E		3
10	Black Drum	C														E		1

REEF FISHES																		
11	Red Grouper	CS														CS-C		2
12	Jewish	CS														CS-C		2
13	Gag Grouper	CS														CS-C		2
14	Scamp	CS														CS		2
15	Red Snapper	CS														CS-C		2
16	Mangrove Snapper	CS														C-E		2

COASTAL PELAGIC FISHES																		
17	King Mackerel	OCS														CS-C		4
18	Spanish Mackerel	CS														CS-C		4

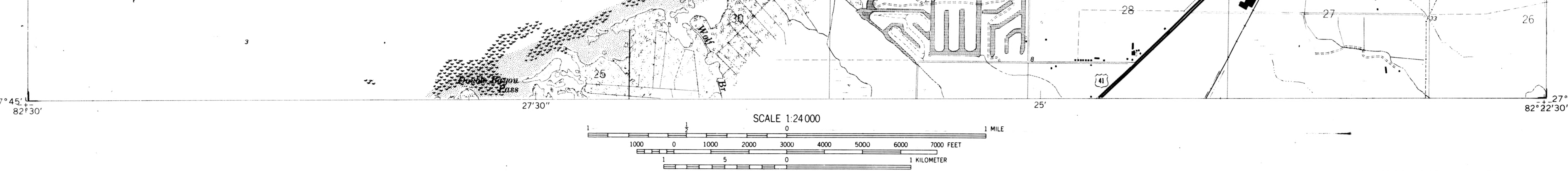
KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican

WEST INDIAN MANATEE HABITAT



THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES A MAJOR PORTION OF THE COASTAL COUNTIES OF PINELLAS, HILLSBOROUGH, MANATEE, AND A SMALL PORTION OF SARASOTA. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS.

Selected areas on this U.S.G.S. base map updated using information extracted from aerial photography. This information not field checked.

PRIMARY SOURCES OF MAPPED INFORMATION:

SHELLFISH HARVEST AREAS: Shellfish Harvest Area Maps, Dept. of Natural Resources, 1982.

PUBLIC & PRIVATE OYSTER BEDS: Cooperative Gulf of Mexico Estuarine Inventory and Study, Florida, McNulty, Lindell and Sykes, 1972.

CLAMS: Personal Communication, Discussion of Distribution Clams in Tampa Bay and Adjacent Brackish Waters, Mr. L. Tracy Three T's Clam Company, 1983. Mike Sprague, Draft Maps, Department of Natural Resources, 1984.

SCALLOP BEDS: Personal Communication, Mr. Bill Lyons Dept. of Natural Resources, Marine Research Laboratory, 1982.

FINFISH SPAWNING, NURSERY & HARVEST AREAS: Florida's Fishing Grounds, Mos, 1970.

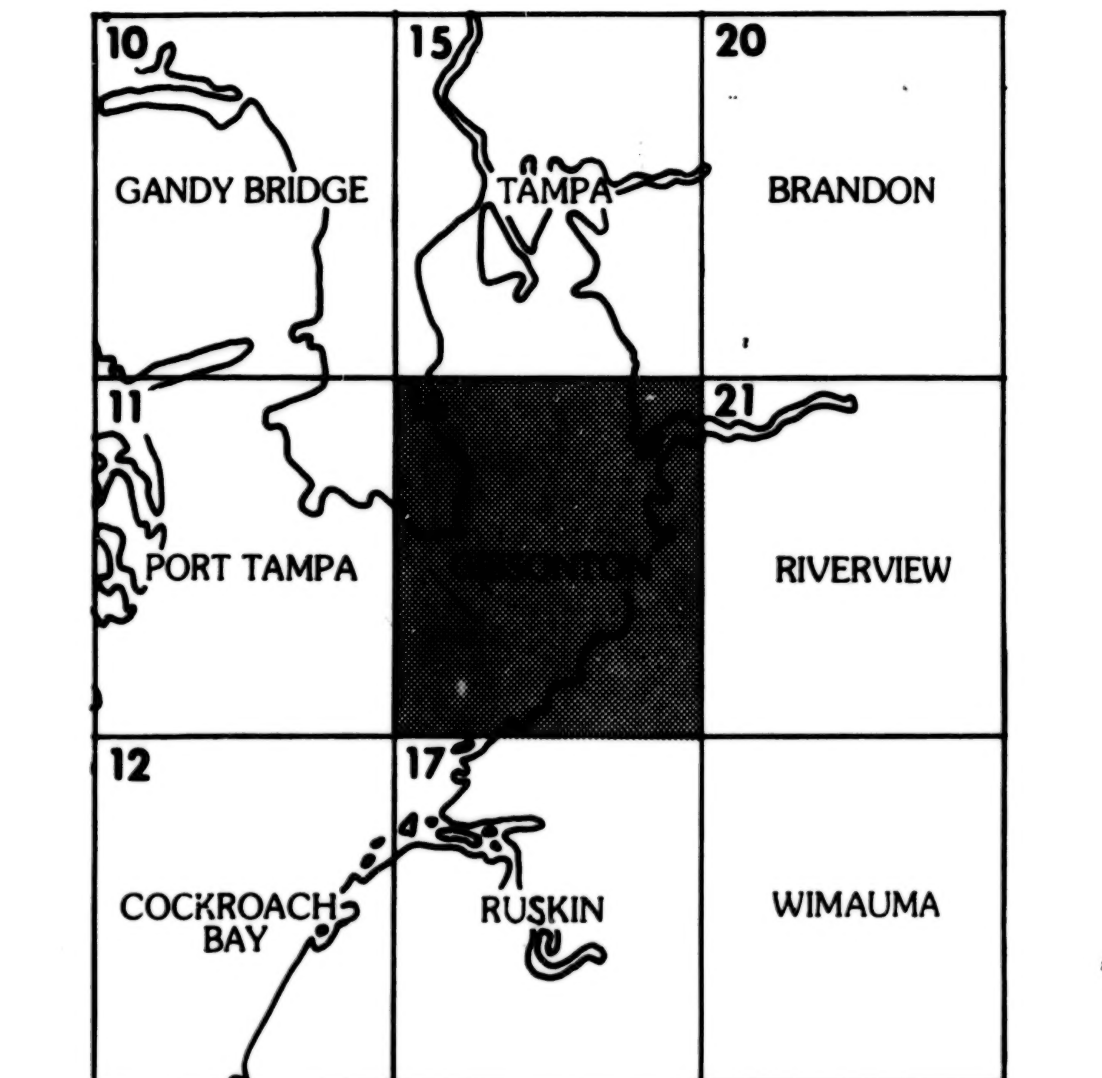
BIRD NESTING SITES: Florida Atlas of Breeding Sites for Herons and Their Allies: 1976-78, Nesbitt, S.A., Ogden, J.C., Kale II, H.W., et al. U.S. Fish and Wildlife Service, 1982. Personal Communication, Maps and Data, Dr. H.W. Kale II, Florida Audubon Society, 1982.

MANATEE HABITAT: Boaters guide to Manatees, the gentle giants, Florida Marine Patrol, 1980.

SEAGRASS BEDS: Tampa Bay Seagrass Maps, 1:10,000 and 1:24,000 Scales, Mangrove Systems, Inc. 1980. National Wetlands Inventory Maps, 1:24,000 Scale, U.S. Fish and Wildlife Service, 1983.

ARTIFICIAL REEFS: Computer Printout of Florida Artificial Reefs, U.S. Army Corps of Engineers, 1981. Recreational Use Reefs in Florida: Artificial and Natural, Florida Sea Grant Program, 1979.

FOR COMPLETE REFERENCE SEE MAP NARRATIVE



- composition data are included in the narrative.
- Shorebird
- Wading Bird
- Brown Pelican
- WEST INDIAN MANATEE HABITAT
- STATE MANATEE SANCTUARY
- SEAGRASS BEDS
- ARTIFICIAL REEF*
(Permitted by Florida Dept. of Environmental Regulation)
Numbers next to reefs refer to composition data in narrative

*Symbols appearing with numbers are described more fully in the narrative.

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